Independent claim 1 is directed to a DC motor having a MEMS relay that includes a magnetic actuation plate micro-machined on a first substrate. Claim 1 has been amended to recite that the magnetic actuation plate comprises one or more anchors in direct contact with the first substrate, and that the magnetic actuation plate and the one or more anchors are formed of permalloy material.

Independent claim 6 is directed to a DC motor having a MEMS relay that includes a springing beam etched on a substrate. Claim 6 has been amended to recite that the springing beam comprises one or more anchors in direct contact with the substrate, and that the springing beam and the one or more anchors are formed of permalloy material.

The art of record fails to disclose or suggest the combination of features recited in independent claims 1 or 6. In particular, Ho discloses a polysilicon plate 40 with an electroplated Permalloy layer 42 disposed thereover. See, e.g., Ho at col. 7, lines 65-66 and Fig. 5. However, Ho fails to disclose or suggest a magnetic actuation plate comprising one or more anchors in direct contact with a first substrate, in which the magnetic actuation plate and the one or more anchors are formed of permalloy material, as recited in claim 1. Similarly, Ho fails to disclose or suggest a springing beam comprising one or more anchors in direct contact with a substrate, in which the springing beam and the one or more anchors are formed of permalloy material, as recited in claim 6. To the contrary, the Permalloy layer 42 in Ho has no anchor portions formed of permalloy. Moreover, Ho's Permalloy layer 42 is disposed over a polysilicon plate 40 and thus kept out of direct contact with substrate 22.

Accordingly, independent claims 1 and 6 are allowable at least for the foregoing reasons. The remaining claims depend from either claim 1 or claim 6. Dependent claims 2-5 thus are allowable at least for the reasons that their respective independent claims are allowable and for reciting allowable subject matter in their own right. Independent consideration and allowance of the dependent claims are requested.

Attached is a marked-up version of the changes being made by the current response.

Applicant asks that all claims be allowed. Applicant believes that no fees are due. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 6/29/07

John C. Phillips
Reg. No. 35,322

PTO Customer No. 20985
Fish & Richardson P.C.
4350 La Jolla Village Drive, Suite 500
San Diego, CA 92122
Telephone: (858) 678-5070
Facsimile: (858) 678-5099

10119821.doc

Version with markings to show changes made

In the claims:

Claims 1 and 6 have been amended as follows:

1. (Twice Amended) A DC motor comprising:

a plurality of windings;

at least one microelectronic mechanical system (MEMS) relay positioned in the motor to activate in the presence of a magnetic field, where each relay includes:

a first substrate formed from a nonconductive or semiconductive material;

a magnetic actuation plate micro-machined on said first substrate, said magnetic actuation plate having a first conductive surface, said magnetic actuation plate comprising one or more anchors in direct contact with the first substrate, where said magnetic actuation plate and said one or more anchors are formed of **[is formed with]** permalloy material **[to provide high plating capability]**; and

a second substrate provided adjacent to said magnetic actuation plate, said second substrate having a nonconductive surface and a second conductive surface,

where said first and second conductive surfaces define at least two switching states, including an open state in which the conductive surfaces are physically separated from each other, and a closed state in which the conductive surfaces physically contact each other,

where said magnetic actuation plate, in the presence of a magnetic field, creates an actuation force that causes the electrically conductive surfaces to switch from one of the switching states to another of the switching states, and

where each relay is connected electrically to at least one corresponding winding and to power; and

a magnetic rotor having at least one pole positioned to induce a magnetic field in each MEMS relay when passing by the relay.

6. (Twice Amended) A DC motor comprising:

a plurality of windings;

at least one microelectronic mechanical system (MEMS) relay connected electrically to at least one of the windings and to power, where each relay includes:

at least one substrate formed from a nonconductive or semiconductive material;

a springing beam etched on the substrate, said springing beam comprising one or more anchors in direct contact with said substrate, where said springing beam and said one or more anchors are formed of **[is formed with]** permalloy material **[to provide high plating capability]**; and

two electrically conductive elements, one formed on the springing beam, that together define at least two switching states, including an open state in which the conductive elements are physically separated from each other, and a closed state in which the conductive elements physically contact each other;

where the springing beam includes a magnetic material which, in the presence of a magnetic field, creates an actuation force that causes the electrically conductive elements to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states; and

a magnetic rotor having at least one pole positioned to induce a magnetic field in each MEMS relay when passing by the relay.